

## **CLAIMS**

*What is claimed is:*

- 5     1. A modular vehicle, comprising:  
        a standardized vehicle platform;  
        a plurality of fixation sites along said platform, said fixation sites comprising  
standardized interconnection means for any of mechanical, electrical, and fluid  
interconnection with any one or more of a plurality of specialized functional modules  
10    that are readily attached to said standardized platform via said interconnection means;  
said fixation sites being located along said vehicle platform at standardized intervals to  
accept one or more of said modules; and  
        a computer implemented control and communications protocol communicatively  
provided throughout said platform for recognizing any of a module's presence, identity,  
15    capability, and function, and for configuring said vehicle accordingly.
2. The vehicle of Claim 1, said platform further comprising:  
        a service trough extending along said vehicle from a first vehicle location to at  
least a second vehicle location, said service trough providing a communications  
20    pathway for any of mechanical, electrical, communications, and fluid sources.
3. The vehicle of Claim 1, further comprising:  
        a dedicated path about said platform for effecting individual module control.
- 25    4. The vehicle of Claim 1, further comprising:  
        a computer implemented vehicle operating system for controlling said modules.
5. The vehicle of Claim 1, said fixation sites comprising:  
        a plurality of custom interfaces for any of contact closures, lighting, power,  
30    control, and interface to computers on board one or more of said modules.
6. The vehicle of Claim 1, said computer implemented control and communications  
protocol further comprising:  
        means for recognizing a module's personality and location.
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7. The vehicle of Claim 1, said platform further comprising:

a plurality of specialized operator stations, each of said stations having dynamically assigned thereto one or more specialized module-related functions.

5 8. The vehicle of Claim 1, said computer implemented control and communications protocol further comprising:

means for controlling vehicle operation and configuration, both in accordance with a current vehicle module complement and in accordance with vehicle resources and performance specifications.

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9. The vehicle of Claim 1, said fixation sites defining fractional locations along an overall platform extent, wherein said platform receives a plurality of said modules, wherein said modules have an extent that is equal to, or that is a fraction of, said platform extent, and wherein any number of modules having a total, combined extent  
15 that is less than or equal to the extent of said platform may be attached to said platform at any given time.

10. The vehicle of Claim 1, said computer implemented control and communications protocol further comprising:

20 means for acknowledging each module, and for performing a background calculation for any of module weight, balance, and power consumption.

11. A modular vehicle, comprising:

a vehicle platform;

25 means for accepting any one or more of a plurality of special purpose, self-identifying modules on said vehicle platform in a mix and match fashion to provide said vehicle with a desired functionality for a particular application;

a central control system within said vehicle for communication with, and identification and control of, said plurality of special purpose modules; and

30 a plurality of sites at standardized intervals along said platform that each provide a common connection for mechanical, electrical, and fluid communication for said modules.

12. The vehicle of Claim 11, wherein said central control system within said platform  
35 determines a unique identification associated with each of said special purpose

modules to any of update said module, unlock functions in installed but inactivated module feature sets, and accept new modules.

13. The vehicle of Claim 11, said central control system further comprising:

- 5           means for any of assessing any of module weight, power consumption, size, and functionality; determining whether a complement of modules fit within design limits of said platform; and dynamically configuring a user interface to express functionality of each of said modules installed on said platform.

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